

WHAT IS CLAIMED IS:

1. A water heating apparatus comprising:
  - a tube made of good heat conductive material; and
  - an electric heater extending along a substantial length of said tube in good heat conductive relation with the tube.
2. The apparatus of Claim 1, wherein the heater is brazed to the tube or joined to the tube with a heat conductive epoxy.
3. The apparatus of Claim 1, wherein said tube includes first and second sections that are in engagement with or close to each other; and said heater extends along and engages both of the tube sections.
4. The apparatus of Claim 3, wherein said tube has a circular exterior cross-section such that said sections create a recess between said sections, and said heater is positioned in said recess.
5. The apparatus of Claim 1, wherein said tube comprises a plurality of coils with each coil engaging or being close to an adjacent coil; and said heater comprises coils with each heater coil being adjacent a pair of adjacent tube coils.
6. The apparatus of Claim 5 wherein the heater coils are on the outside of the tube coils.
7. The apparatus of Claim 5 wherein the heater coils are on the inside of the tube coils.
8. The apparatus of Claim 1, wherein the tube and the heater are each formed with a plurality of coils wound on a small diameter, consistent with the tube construction and heater materials, and forming a tubular bundle of coils.
9. The apparatus of Claim 1, wherein said tube and said heater are each formed with a plurality of coils which are sufficiently large to extend around the exterior of a lower portion of a wash basin.
10. The apparatus of Claim 9, including the wash basin.
11. The apparatus of Claim 1, wherein said tube and said heater are configured to heat at least 14 ounces of water from a temperature of about 60° F to about 115 ° F in about three minutes.

12. The apparatus of Claim 11, wherein said tube has an outer diameter of about  $\frac{3}{4}$  of an inch and a length of about 74 inches.
13. The apparatus of Claim 12, wherein said tube is made of copper or stainless steel.
14. A method of heating small volumes of water for intermittent usage, such as for an aircraft wash basin, said method comprising:
  - providing a tube to be connected to a water outlet, said tube being made of good heat conductive material;
  - providing an electric heater in good heat conductive relation with the tube.
15. The method of Claim 14 comprising:
  - providing said tube and said heater with coils, with said heater coils being in good heat conductive relation with adjacent tube coils.
16. The method of Claim 15 comprising:
  - applying electrical energy to the heater to heat at least about 14 ounces of water in said tube to at least about 115° F in no more than about three minutes.